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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/784,118	02/20/2004	David P. Prince	M2010-7128	5274

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EXAMINER

BALI, VIKKRAM

ART UNIT PAPER NUMBER

2623

DATE MAILED: 08/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/784,118

Applicant(s)

PRINCE, DAVID P.

Examiner

Vikkram Bali

Art Unit

2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 February 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 14-18 and 20-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-8 and 20 is/are allowed.
- 6) ☒ Claim(s) 14-18 and 21-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 7/2/2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>7/14/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

In response to the amendment filed on 2/8/2005, all the amendments have been entered and the action follows:

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 14-18 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 17, 18 and 24 of U.S. Patent No. 6891967 (herein after '967) in view of US Patent PUB No. 2002/0019729 A1 (herein after '729).

Patent '967 discloses all the elements of the instant application except for depositing of the substance through a stencil on to a substrate, and actuating a stencil wipe procedure to clean the stencil when a defect exists in the region of the interest, as

claimed in the instant application. But, inspecting a substrate having a substrate deposited of the patent '967 is similar to the substance deposited through a stencil on to a substrate. And, the patent publication '729 teaches actuating a stencil wipe procedure to clean the stencil when a defect exists in the region of the interest, (see 0011 last 9 lines, it states that if the defect is present then a decision is made to whether to clean the mask "stencil" or not) as claimed.

Therefore, it would have been obvious to have the teaching of '729 to have the stencil clean i.e. to have the stencil wipe procedure actuated, when the defect is found incorporated in to the '967 system as it is well known in the field.

Claim 15 and 16 of instant application is similar to the claims 24 and 18 of the copending application.

Claims 17-18 of the instant application is claiming subject matter that is known in the lithography and ADC (automatic defect classification).

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 25 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 25 is a system claim depending upon a method claim.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 21-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doyle et al (US 5873939) in view of Takagi et al (US 5801965) and in further view of Chang et al (US Pat. PUB. 2002/0019729 A1).

With respect to claim 21, Doyle discloses dispensing material through stencil on to the substrate, (see col. 5, lines 17-19 and 23-26) as claimed. However, he fails to claim performing texture based recognition to find a feature, comparing the feature to find the defect and do the stencil wipe procedure. Takagi teaches texture-based recognition for the features in order to detect and classify the defects, (see col. 11, lines 30-38). It would have been obvious to one ordinary skilled in the art at the time of invention to combine the two references as they are solving the similar problem of circuit board manufacturing (see col. 1, lines 4-6 Doyle and col. 1, lines 8-11 Takagi). The process of inspecting the wafer as taught by Takagi can be combine to the Doyle's system to get a over all system that can properly and quickly adjust inspecting standards on the basis of the automatic inspection.

Doyle and Takagi fail to disclose the stencil wipe procedure, as claimed. But, it is well known in the field of lithography to do this procedure once the material is dispensed on to the substrate. And, the reference Chang teaches actuating a stencil wipe procedure to clean the stencil when a defect exists in the region of the interest, (see 0011 last 9 lines, it states that if the defect is present then a decision is made to whether to clean the mask "stencil" or not) as claimed.

Therefore, it would have been obvious one ordinary skilled in the art at the time of invention to simply combine the reference as they are analogous because they are solving similar problem of inspection. The teaching of Chang of actuating the wipe procedure to clean i.e. to have the stencil wipe procedure actuated, when the defect is found, can be incorporated in to the Doyle and Takagi system as it is well known in the field.

With respect to claim 22, Takagi further teaches the feature being one of a defect (see figure 5 for the defects occur during the process) as claimed.

With respect to claim 23, Doyle further discloses printed circuit board, (see col. 1, lines 5-8, the circuit boards) as claimed.

With respect to claim 24, Doyle further discloses substrate includes solder paste, (see col. 5, lines 23-26, solder paste) as claimed.

Art Unit: 2623

With respect to claim 25 as best understood, Takagi further teaches the performing texture based recognition of a solder deposit on the substrate (see col. 11, lines 30-38) as claimed.

Allowable Subject Matter

7. Claims 1-8 and 20 are allowed.

Response to Arguments

8. Applicant's arguments with respect to claims 14-18, and 21-25 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

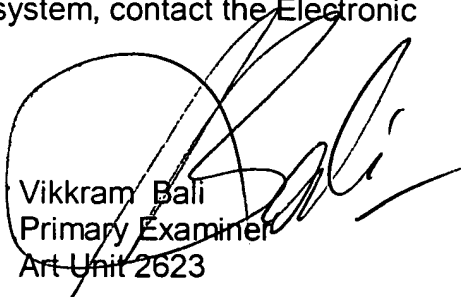
Art Unit: 2623

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vikkram Bali whose telephone number is 571.272.7415. The examiner can normally be reached on 7:00 AM - 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on 571.272.7414. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Vikkram Bali
Primary Examiner
Art Unit 2623

vb
August 29, 2005